

CLAIMS

1. A press comprising a motor supported by a support, a lifting mechanism driven up and down by the rotation of said motor, and a pressing member fixedly coupled to a lower end of said lifting mechanism to press a workpiece,

wherein said motor is constituted by a servo motor of which rotation can be controlled by a control mechanism,

said lifting mechanism is constituted by a ball screw comprising a ball screw shaft, a ball screw nut screw threaded with said ball screw shaft, and balls introduced into transferring grooves so as to be able to roll therein, said transferring grooves being formed on said ball screw shaft and said ball screw nut,

one of said ball screw shaft and said ball screw nut of said lifting mechanism is coupled to a driving shaft rotatably interlocked with the servo motor, while the other is fixedly coupled to said pressing member.

2. The press according to claim 1, wherein said control mechanism is constituted by a numerically controlled apparatus programmable for numerical data on press work conditions.

3. The press according to claim 1, wherein said press is provided with a plurality of roller guides serving as lift

guiding means of said pressing member, said roller guide comprising a rail fixed to the support, a lift block fixed to the pressing member, and a roller making rolling contact at an outer peripheral surface thereof with said rail and said lift block.

4. The press according to claim 1, wherein a plurality of said servo motors and said ball screws are provided for one pressing member.

5. The press according to claim 4, wherein, in addition to providing a plurality of said servo motors and said ball screws for one pressing member, a plurality of said roller guides are provided around one pressing member.

6. The press according to claim 1, wherein a slidably guiding mechanism is provided as lift guiding means of said pressing member, said slidably guiding mechanism comprising a columnar member provided vertically on the support, and a slider fixed to the pressing member and fitted onto the columnar member to be supported thereby.

7. The press according to claim 6, wherein more than one slidably guiding mechanism is provided around one pressing member.

8. The press according to claim 1, wherein said servo motor and said driving shaft are rotatably interlocked by a timing pulley and a timing belt.

9. The press according to claim 4, wherein a plurality of said servo motors and driving shafts corresponding thereto are rotatably interlocked by gear trains.